ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	**	IROQUOIS	190	57
FED. ROAD DIST. NO.	ILLINOIS			

**(38-3,4)RS-2, (38-4)BR1 Contract No. 66757

Sheet 1 of 11 Sheets

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Bench Mark:
Chisel "□" on top of southeast wingwall of northbound I-57 bridge, Structure Number 038-0159. Elevation 655.74

Existing Structures:
SN 038-0158, Southbound I-57 Bridge
SN 038-0159, Northbound I-57 Bridge
The structures were built in 1967 as single span Reinforced Concrete Slab Bridges supported by Closed Concrete Abutments. Vertical cantilever retaining walls with spread footings connect the two structures on either side of the channel in the median area of the highway. The superstructures were resurfaced in 2000 with a microsilica concrete overlay. The bridges measure 21'-11½" back to back of abutments and 42'-4" out to out of deck. The structures will be replaced with a Double Box Culvert.

Salvage:
No Salvage

Staging:
One lane of traffic shall be maintained in each direction utilizing stage construction.

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.

Reinforcement bars designated (E) shall be epoxy coated.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. The Contractor shall sawcut the upper portion of the existing abutment at the stage removal line before Stage I removal to ensure the remaining portion will not be prematurely damaged.

A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.

Removal of the existing reinforced concrete slabs creates an unstable condition for the abutment walls directly supporting the superstructures. Bracing of the abutment walls or excavation behind the abutments may be required to ensure the stability of the abutment walls during structure removal and construction activities.

A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wings.

A precast concrete culvert alternate will not be allowed.

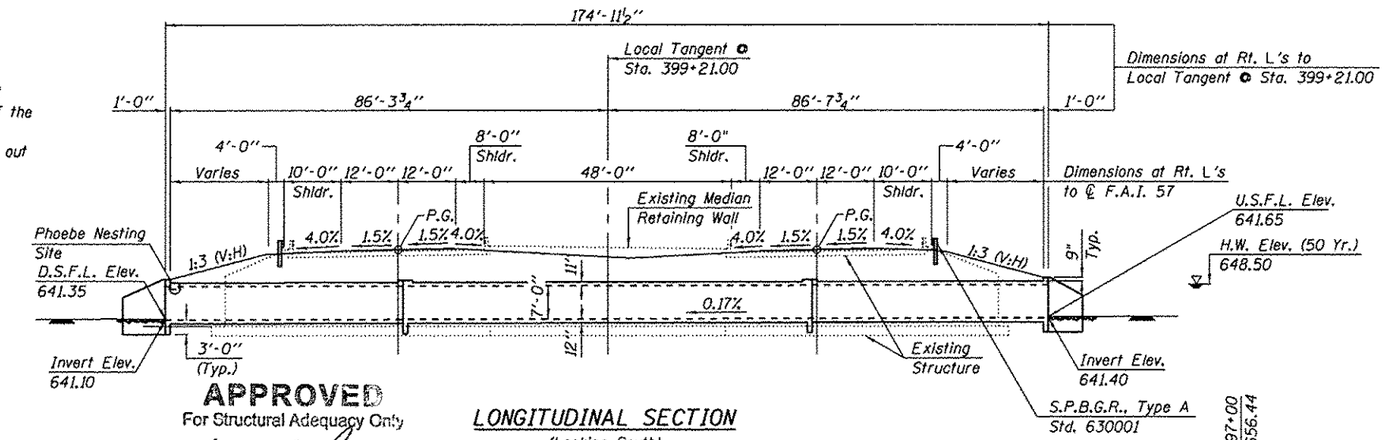
BILL OF MATERIAL

	Stone Riprap, Class A4	Sq. Yd.	100
	Filter Fabric	Sq. Yd.	100
***	Removal of Existing Structrues No. 2	Each	1
	Furnishing and Erecting Structural Steel	Pound	4,520
	Reinforcement Bars	Pound	79,630
	Bar Splicers	Each	242
	Name Plates	Each	1
	Concrete Box Culverts	Cu. Yd.	434.1
***	Temporary Soil Retention System	Sq. Ft.	3,114

***See Special Provisions

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	Upstream	Downstream
	638.40	638.10

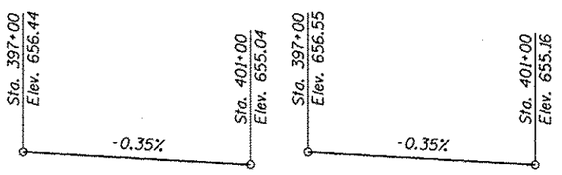


LONGITUDINAL SECTION

(Looking South)

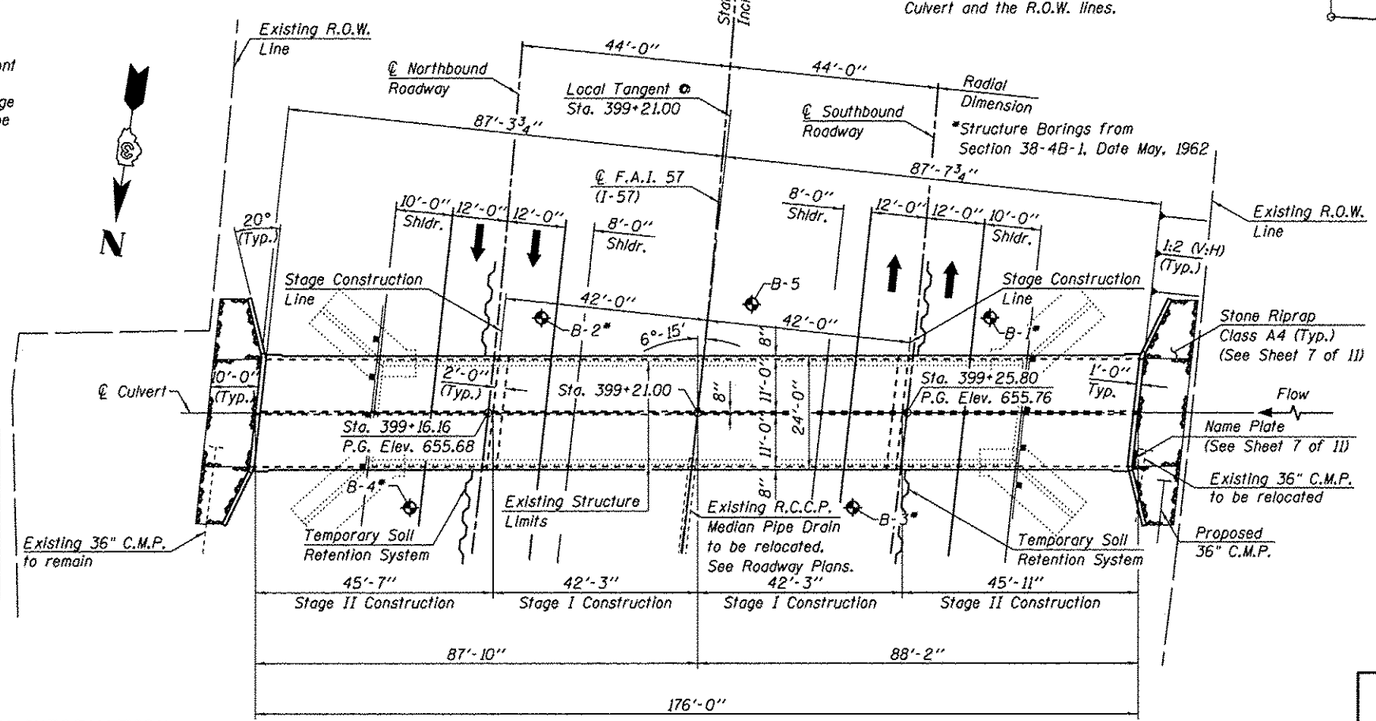
APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

Note: See roadway plans for existing and proposed pipe culverts located between the ends of the proposed R.C. Box Culvert and the R.O.W. lines.



PROFILE GRADE

F.A.I. 57 (P.G.L. ● ℄ Rdwy.)



PLAN

*Structure Borings from Section 38-4B-1, Date May, 1962

WATERWAY INFORMATION

Drainage Area = 0.30 Sq. Mi. Exist. Low Grade Elev. 654.00 ● Sta. 403+40
Prop. Low Grade Elev. 654.32 ● Sta. 403+40

Flood	Freq. (Yr.)	Q (c.f.s.)	Opening (Sq.Ft.) Exist.	Opening (Sq.Ft.) Prop.	Natural H.W.E.	Head (Ft.) Exist.	Head (Ft.) Prop.	Headwater El. Exist.	Headwater El. Prop.
-	10	150	120	128	647.2	0.0	0.0	647.2	647.2
Design	50	250	146	154	648.5	0.0	0.0	648.5	648.5
Base	100	295	156	154	649.0	0.0	0.0	649.0	649.0
Overtopping									
Max. Calc.	500	405	170	154	649.7	0.1	0.0	649.8	649.7

10-Year Velocity through Exist. Structure = 1.3 f.p.s.
10-Year Velocity through Prop. Structure = 1.2 f.p.s.

DESIGN STRESSES

FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi

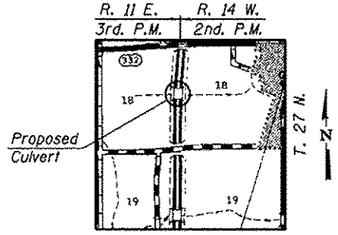
LOADING HS 20-44 & ALTERNATE

Allow 50#/sq. ft. for future wearing surface

DESIGN SPECIFICATIONS

2002 AASHTO Specifications

John A. Morris 12-14-12
ILLINOIS STRUCTURAL NO. 4277 (Expires 11/30/14)



LOCATION PLAN

HORIZONTAL CURVE DATA

P.I. Sta 396+10.81
Δ = 05°-14'-17.35"
D = 00°-30'-00"
T = 524.18
L = 1,047.63
R = 11,459.16
E = 11.98'
P.C. Sta. 309+86.63
P.T. Sta. 401+34.26
Remove Crown

INDEX OF SHEETS

DESIGNED -	S.F.M.
CHECKED -	J.A.M.
DRAWN -	S.A.P.
CHECKED -	S.F.M. & J.A.M.

GENERAL PLAN & ELEVATION
I-57 OVER
DANFORTH TOWNSHIP DRAINAGE DITCH
F.A.I. ROUTE 57
SECTION (38-3,4)RS-2, (38-4)BR1
IROQUOIS COUNTY
STATION 399+21.00
S.N. 038-2020

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